

CLAIMS

1. A semiconductor device having at least a first and a second power source systems as a plurality of power source systems, the first and second power source systems each including a power supply bonding pad, a ground bonding pad, and at least one signal bonding pad that are formed on a semiconductor substrate, respectively, and an I/O circuit that is connected to each of the bonding pads and which inputs or outputs a signal from or to the signal bonding pad,

wherein each of the first and second power source systems comprises, on the semiconductor substrate, a first ESD protective bonding pad and a signal ESD protective element section that is connected to the signal bonding pad and the first ESD protective bonding pad,

and wherein the first ESD protective bonding pads of the first and second power source systems are connected to one another.

2. The semiconductor device according to claim 1, further comprising a power source ESD protective element section that is connected to either of the first ESD protective bonding pads of the first and second power source systems.

3. The semiconductor device according to claim 1 or 2, wherein each of the first and second power source systems comprises a power supply terminal that is connected to the power

supply bonding pad, a ground terminal that is connected to the ground bonding pad, and a signal terminal that is connected to the signal bonding pad,

and wherein, in each of the first and second power source systems, the first ESD protective bonding pad is connected to one of the power supply terminal and the ground terminal.

4. The semiconductor device according to claim 3, wherein, in each of the first and second power source systems, the connection between the power supply bonding pad and the power supply terminal, the connection between the ground bonding pad and the ground terminal, the connection between the signal bonding pad and the signal terminal, and the connection between the first ESD protective bonding pad and one of the power supply terminal and the ground terminal, are respectively performed via bonding wire.

5. The semiconductor device according to claim 1, wherein each of the first and second power source systems further comprises, on the semiconductor substrate, a second ESD protective bonding pad that is connected to the signal ESD protective element section, wherein the second ESD protective bonding pads of the first and second power source systems are connected to one another.

6. The semiconductor device according to claim 5, further

comprising a power source ESD protective element section that is connected to either of the first ESD protective bonding pads of the first and second power source systems and which is connected to either of the second ESD protective bonding pads.

7. The semiconductor device according to claim 5 or 6, wherein each of the first and second power source systems comprises a power supply terminal that is connected to the power supply bonding pad, a ground terminal that is connected to the ground bonding pad, and a signal terminal that is connected to the signal bonding pad,

and wherein, in each of the first and second power source systems, the first ESD protective bonding pad is connected to one of the power supply terminal and the ground terminal, and the second ESD protective bonding pad is connected to the other of the power supply terminal and the ground terminal.

8. The semiconductor device according to claim 7, wherein, in each of the first and second power source systems, the connection between the power supply bonding pad and the power supply terminal, the connection between the ground bonding pad and the ground terminal, the connection between the signal bonding pad and the signal terminal, the connection between the first ESD protective bonding pad and one of the power supply terminal and the ground terminal, and the

connection between the second ESD protective bonding pad and the other of the power supply terminal and the ground terminal, are respectively performed via bonding wire.